1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

tunities—bade him use four feathers instead of two. Then the feathers were first tied in pairs, and afterwards the pairs were fastened together.

The shaman's most precious possession was his crystal, which shed light "like your car lamps" on the seat of disease or the hiding place of an evil shaman. Generally, a shaman possessed not one, but the ceremonial number, four. According to legend, these flakes of quartz are the solidified saliva of I'itoi, who spat on the head of the first shaman so that saliva entered the man's heart. All shamans, supposedly, are able to keep their crystals in their hearts, and it is these which give their saliva its power if they blow it over a patient.

Theoretically, crystals were not obtained from outside, but grew within the shaman's body, "lots of them, like honey in a honeycomb." Their growth in the heart of a young girl has been mentioned, and the same informant recounted: "My brother was a shaman, but he had a bad wife who came to sleep with him while she was menstruating. That killed his crystals so that they rotted away, and another shaman, who looked into his heart, saw it like an empty honeycomb."(26)

However, the young shaman could easily find crystals by hunting over the rocky hills, where quartz fragments abound. Even this was done according to pattern.

> The eagle told me to go at sunset to a certain place and look for crystals. So I did, and in a little hollow I saw four of them lying, all together. I held out my hand, and they jumped into it. Then I held my hand before my mouth, and one by one they jumped down my throat.(16)

Asked to exhibit them, the informant objected: "I keep them in my heart. I never show them."

However, the writer succeeded in obtaining a set of crystals belonging to a defunct shaman, whose family feared their power. They were from one to two inches long, a quarter to half an inch thick and irregularly shaped. They were contained in a little fringed buckskin bag, dyed red and having a long string so that it could be worn around the neck.

1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

shaman began to think about his pay and some introduced hints into their songs. One is reported to have sung:

> Don't give me beads,
> I am not young and handsome.
> Give me a horse; a horse!

A horse or cow was the usual pay, and the family generally brought in a piece of manure to indicate what it would be. If diagnosis were difficult, the shaman might have to sing on other nights (four was the ritual number) before he earned his pay. Usually before dawn he announced what curing singer must be sent for, or else he himself sucked out the disease object. Some shamans did not suck, "because they did not have it in their dreams." They merely recommended that another shaman be called.

If the specialists he had recommended produced no result, a shaman would diagnose again, without further pay. He might thus recommend several curing singers in succession, and if all failed, the blame was not theirs, but his. That such happenings were not infrequent is evidenced by the Papago slang term for shaman, which is "liar."

THE FEMALE SHAMAN

The myths occasionally mention a female shaman who was powerful and whose magic succeeded where that of her male colleagues had failed. In practice, the writer heard of but few female shamans, and these held a very subordinate position. Denied any connection with shamanism until after childbearing age, women often became herbalists [6] and then drifted into a limited shamanism by means of a vision or two. As with white women doctors, circumstances often pushed them into specializing in children's diseases.

One woman known to the writer practiced a peculiar form of therapy which might have seemed her own idiosyncrasy had it not turned out to be an ancient Aztec practice.[7] This was pressing on

[6] See p. 30. [i.e., read p. 300.—Ed.] [7] Sahagún, Seler, p. 366.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

Coyote		Buzzard	
aapap-kam	aapap people	maam-kam	maam people
apki-kam	apki people	waahw-kam	maam people
Uncertain		**Legendary**	
o'kari-kam	o'kari people	a'to-kam	a'to people
		si pat-kam	bad people

The distinguishing characteristic of these sibs is that a father is called by his children, not by the ordinary word for father, but by the stem of the sib name: aapap, maam, etc. This is similar to the custom in Yuman tribes of calling the women of one sib by a common sib title.[1] The father term is used to every father in the sib by both male and female children and women do not cease to use it on marriage. Therefore no Papago can be unaware of his sib, though all its functions may have been lost.

The placing of the sibs in the moieties is not entirely clear. All informants agreed that the aapapkam were Coyote and the maamkam Buzzard. In fact these main sibs were sometimes used as synonymous with the moieties and many had never heard of any others. When they had, they assigned them a subsidiary position. For example, apkikam is the youngest clan (12); waahwkam is slave to the others and has no real partner, but looks to black buzzard who is slave to yellow buzzard, the moiety totem (20).

It was the common opinion that, four being the ceremonial number, there ought not to be more than four sibs and informants tried to explain away one or another, the omitted one being little represented in the speaker's neighborhood. Thus some informants thought that apki was merely a variation of aapap and that the two constituted one sib (5). Others thought the waahwkam existed only among the Pimas (20). The writer is inclined to agree with the greater number who were convinced that the o'korikam were not a sib at all (12, 23, 16). The proof was that most informants did not know to which moiety the o'korikam belonged and some o'korikam (35) had the same difficulty. Most of this sib have come from below the Mexican border where there has been more fighting and scattering than at the north. They may have been people who had lost clan affiliation and had taken the ordinary word for father, ok, and made a diminutive. The legendary sib, á'tokam, was said (10) to have been that of Elder Brother himself which came up from underground but went back at last, and he with it. The sipátkam were bad people who never joined the others in the expedition above ground (25).

[1] Fordo, 143; Kroeber 1919, 741,; Spier 1933, 187.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

up one by one shouting the names and presenting them to the proper gift partners. Each stick recalled to him the name of a particular individual, a difficult form of mnemonics for Whites, but the Papago, trained in memorizing by rote, did not consider it as hard as abstract counting. Something like the same process may be observed today when an Indian, in trading at the store, points to an article, pays for it and gets the change before dealing with the next one.

The Papago word now used for *count* is kwint, obviously from the Spanish *cuentar*. But the writer, in studying a Spanish grammar of the Lower Pima,[1] was puzzled to find a Pima word which was translated count. After much conference with Papagos, it was decided that the word was *ha kiwikitat*, to whip them continually, and seemed to have been derived from the counting of strokes under the Spanish punishment system.

MEASURES

Dry measure was calculated by the basketful. The basket bowl, the winnowing basket and the carrying basket were roughly standard sizes and all had various decorative lines parallel to the rim by which fractions of their content could be measured. In measuring quantities for trade, however, both parties to the bargain used the same basket so they could be sure of equal measure.

For linear measure, parts of the body were used. Women, in making a basket, took as a unit the handbreatdh: the distance between the outstretched thumb and forefinger. Half a handbreadth was the length of the first finger and "less than a handbreadth" the distance between thumb and first finger. For more exactitude, the worker used the distances between various fingertips, with the hand outstretched.

Men measured the length of wood for a bow by the distance from the tip of the second finger to the breast bone, when the arm was stretched forward. The arrow should be as long as the space between the hands when pulling the bow string. Lengths of rope were measured by the distance between the fingertips when the arms were outspread or, for short ropes, the distance from elbow to wrist.

CEREMONIAL NUMBERS AND DIRECTIONS

The Papago ceremonial number is four and four is continually used whenever small amounts are thought of. Possibly, in former

[1] Grammar of the Pima or Nevome, a language of Sonora, from a manuscript of the XVIII Century. Edited by Buckingham Smith, 1862.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

[801] 823 times, this was as far as they counted without the aid of sticks and notches. Four directions are recognized, with ceremonial colors. East literally "under the sunrise" is always white, and west, "under the sunset", always black, possibly because a disagreable wind comes from there. North is "the direction from which floods come," its color red or blue. South is "the direction where rubbish is piled" (in floods) but also "the direction of the ocean" and "the direction of suffering," since the Gulf of California, the goal of the arduous salt expedition lay that way. The color of the south is red or yellow.

Papagos have no words for left and right and never speak of the hands or of the directions in that way. Neither do they often use the ceremonial terms for the directions but point with the lips or the hand and use an adverb which means yonder far, yonder near yonder up (which always connotes east and the upward movement of the sun) yonder down, (which connotes west). But they are always conscious of the directions and all ceremonial groups are oriented so that a description of them involves a plan drawn in the sand. The circuit in dancing or passing the ceremonial cigarette is always counter clockwise. In at least one ceremony, the orator speaks first at the east, then north, then south and then, making three quarters of a circuit, comes back to the west.

TIME RECKONING

805 The Papago year begins in July with the ripening of the giant-cactus, the beginning of rainy season. There are no standard names for the months, but a number of descriptive terms can be used for each period between one "death of the moon" and the next. Since these describe well known natural phenomena, anyone can recognize a month by any of its appellations. The following are terms frequently used:

July	tcuuki(macaṭ)	rain (moon)
	haacaiṁyi pa'k	giant cactus ripe
August	cópori ñcapi'k	short planting
	kI'I tcuupiopi'k	big rain
Sept	wácai kákita'k	dry grass
Oct	ari tcutcukiopi'k	little rain
	wi'khanyi'k	frost
Nov	s'kĩk s'ĩhpitci'k	pleasant cold (time for games and races)
Dec	kI'I s'ĩhpitci'k	big cold (month for wiikita)
Jan	kihuta'kc	animals thin
Feb	uuwarik	smelling (deer mating, strong smell)
	komaki macaṭ	gray moon

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29

mediately covered the seeds by scraping dirt over the hole with his foot. The surface was left flush with the ground, the soil not pressed down. Informants stated that, using the digging stick, a man could plant about a half acre of corn or teparies per day.

There was no device for making certain the hills would be in straight rows, as one learned by experience how to gauge this with the eye. When tree stumps were encountered no special effort was made to keep rows straight and the hills were staggered around them. All crops were planted with the hills in adjacent rows alternating, and in no case was the soil between the hills worked at planting time. Since no attempt was made to locate hills in the same spots year after year, this was conducive to maintaining soil fertility.

Maize was planted four to six inches deep; teparies, kidney beans, lima beans, pumpkins, gourds, black-eyed beans, chick peas, watermelons, muskmelons and cotton about three inches, since, unlike corn and pumpkins, they could not push up from a greater depth of soil; lentils were planted about one to one and one-half inches and chili merely pressed into the soil, while tobacco was blown from the hand and the surface soil then scratched with a branch. Two informants said for watermelons, pumpkins and muskmelons holes were made about six inches deep, the seed covered shallowly, leaving a depression, and the hole gradually filled in as the plants grew.

Hills and rows for the last three were located six to eight feet apart; teparies, kidney beans, black-eyed beans, chick peas and cotton, one and one-half to two feet; lima beans about three feet, and lentils about twelve inches. Maize rows were thirty inches apart; teparies, kidney beans, black-eyed beans and cotton about two feet.

The Piman ritual number was four, and, theoretically, four seeds of any crop were to be planted to each hill; practically, this has long been ignored. Maize, teparies, kidney beans, black-eyed beans, lima beans, chick peas, cotton,

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29

ning, of rain and water running in the arroyos, of corn growing and fruiting. The purpose was to assist in producing a plentiful harvest and to give thanks for favors already bestowed.

Pima informants said that in earlier years their people had taken over from the Papago, in a half-hearted way, the ceremony of Vikita, but that it soon died out. However, in 1906, Brown[5] described a Pima-Maricopa harvest festival formerly held south of the village of Blackwater on the Gila, and, though known as a harvest festival, it might be performed on one or more important occasions each year. Here a group of musicians beat drums of carefully burned out cottonwood logs, a piece of half-tanned deerskin stretched across each end. Others drew bone rasps over the bottoms of upturned baskets, which had been spread with a layer of the gummy secretion of the mesquite tree. An unusual feature of this celebration was that the performers carried wooden and stone phalli, which were doubtless symbolic of fertility. Also, they carried long wands, evidently prayer sticks, tipped with feathers of wild turkey.

Some ceremonial practices and beliefs similar to those found among the Pueblos were also to be observed among the Pimans. One of these was color-direction association. The Piman ceremonial number is four, and four directions are recognized, associated with ceremonial colors. As applied to maize, one Pima informant at Sweetwater volunteered the information that white corn is east; red corn, west; blue corn is north; yellow corn, south. In addition, variegated corn was said to represent "up," while "down" corn was nearly black. This informant was asked on a number of different occasions to repeat the relation between directions and colors of corn and the results were invariably the same; we found it impossible to confuse him. Although this color direction does not check exactly with that given by Parsons,[6] who has listed a

[5] Brown, *A Pima-Maricopa Ceremony*.
[6] Parsons, *Notes on the Pima*, p. 459.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

may be seen playing harmoniously together, where a similar gathering of small Caucasians would soon result in discord, fights, and tears. The children and young girls have three kinds of chewing gum; the one which is most commonly used has been mentioned already, another is procured from the pod of a vine which comes early and dries in July; by squeezing the pod a milk is secured which when boiled yields a gummy substance. These natives never shake hands; they come and go and are never obtrusive. In the circumstances under which I travelled, I liked that custom; it made me feel independent and equally polite. When an Indian comes to shake hands with me, I know he has changed his mode of life, for one may be sure that he learned that custom from Americans or Mexicans. Their language is not sonorous, as it is full of guttural sounds and half-pronounced syllables. Four is their sacred number.

In the autumn of 1909 there was a mild epidemic of an eye disease among the Papagoes of Sonora as far west as La Nariz. The eyes were red and inflamed, as in conjunctivitis, and the pain evidently was very great. They probably contracted this disease from the Mexicans.

In his changed habits of life, inhabiting houses that do not admit air and adopting clothes that debilitate his magnificent physique, the Papago, when he catches cold, is unable to throw it off in the same way that a white man does. It very often develops into pneumonia and consumption, which awful disease is the scourge of the tribe, nine out of ten deaths being due to tuberculosis. The children bring it from school and even old people

13:Davis E-5 (1920) 1920 NU28 Papago NU28

each booth must neither eat nor drink from sunrise to sunset, during the time of the ceremony, nor relieve themselves during that period. Four times, at noon, dry pinole and water are held under their noses, but they must not touch either of them. The four singers and the woman guardian may have water, but no food; neither may they leave their posts to relieve bodily discomforts, from sunrise to sunset.

Any of the men or boys may don the ceremonial costumes and march, two at a time, to the spot near the singers' booths, where they dance and sing twice, and then, returning, sing once while in the booth, and once before retiring from it, making four times in all, for four is the ceremonial number of the Papago. Anything done once must be repeated four times before it is completed.

The two men in costumes and masks always sang and stamped opposite each other, and made the same motions with the ceremonial eagle-wands. Each party took about ten or twelve minutes from the time the assistants fastened on the ceremonial costumes until they were removed. Usually